

ABSTRACT OF THE DISCLOSURE

A fuel cell system has an anode space and a cathode space with a separating proton-conducting membrane. A cathode feed line is used to feed oxygen-containing gas to the cathode space, and an anode line is used to feed and discharge an operating medium into the anode space. A representative temperature is determined for the system, and metered amounts of operating medium are passed to the cathode space as a function of this temperature. Increasing in the operating medium concentration in the cathode space in this manner causes a reduction in the freezing point and, when the system is started, an exothermic catalytic reaction.